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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/695,068

10/28/2003

J. Stewart Young

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02/18/2010

MEDTRONIC

Attn: Noreen Johnson - IP Legal Department

2600 Sofamor Danek Drive

MEMPHIS, TN 38132

EXAMINER

COTRONEO, STEVEN J

ART UNIT

PAPER NUMBER

3733

MAIL DATE

DELIVERY MODE

02/18/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/695,068	Applicant(s) YOUNG ET AL.	
	Examiner STEVEN J. COTRONEO	Art Unit 3733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7, 8, 10-18, 21 and 31-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-8, 10-18, 21, 31-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The finality of the office action mailed on 4/1/2009 is vacated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

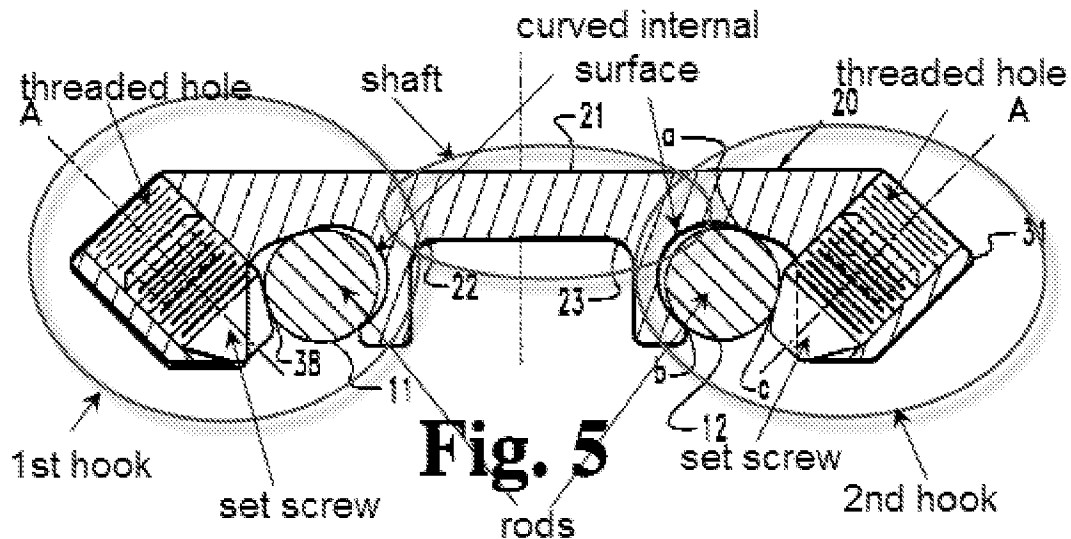
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 10-16, 21, 31, 32, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeck et al. (US 6,136,003) in view of Hermann et al. (US 2001/0020168).

Hoeck et al. discloses a vertebral support apparatus (see fig 5 below), the apparatus comprising: first and second spinal rods (fig 5, 11 and 12); a solid non-hollow shaft (fig 5, 21) the shaft is solid across the entire cross-section of the shaft and includes no internal cavity. A first hook (see fig 5 below) including a first internal surface has a curved portion, the first rod contacting the first internal surface. A second hook (see fig 5 below) including a first end unitary and integral with the shaft at a position axially displaced from the first hook, the second hook terminating at a second end spaced laterally from the shaft and comprising a second internal surface having a curved portion. The shaft includes a first threaded hole (see fig 5 below) associated with the first hook, and a set screw (fig 5, 38) extends through the first threaded hole contacting the first rod and forcing the first rod against the first internal surface. The shaft includes a second threaded hole (see fig 5 below) associated with the second

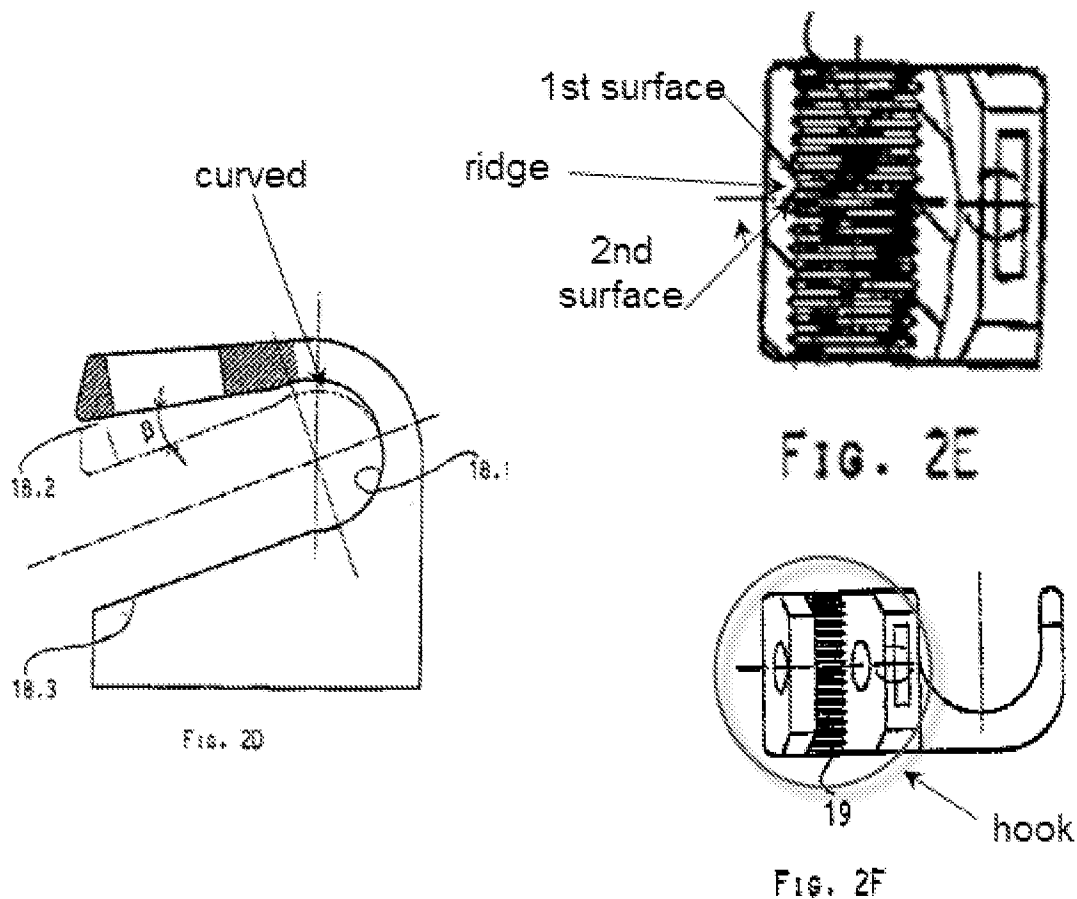
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hook. The shaft defines a substantially planer plate (see fig 5 below). The apparatus is formed as one piece and is a permanent and non-adjustable.



Hoeck et al. does not disclose including a ridge extending along the curved portion in a direction from the first end to the second end, wherein the rod contacts the ridge and a set screw extends through the threaded hole contacting the rod and forcing the rod against the ridge.

Hermann et al. discloses including a ridge (see fig 2E below) extending along the curved portion in a direction from the first end to the second end, wherein the rod contacts the ridge and a set screw (fig 2, 20) extends through the threaded hole contacting the rod and forcing the rod against the ridge to diminish the friction between the rod and the hook (paragraph 46). The ridge is formed as first internal surface and a second internal surface that intersect at an in a first and second direction oblique direction (see fig 2E below).



It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the device of Hoeck et al. with a ridge extending along the curved portion in a direction from the first end to the second end, wherein the second rod contacts the ridge and a set screw extends through the second threaded hole contacting the second rod and forcing the second rod against the ridge in view of Hermann et al. in order to diminish the friction between the rod and the hook.

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With regard to the acute and obtuse angles of the ridge it is unclear in Hermann et al. what the angle of the surfaces are, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have constructed the ridge as being obtuse or acute, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeck et al. (US 6,136,003) in view of Hermann et al. (US 2001/0020168) and further in view of Lombardo (US 6,238,396).

Hoeck et al. in view of Hermann et al. discloses the claimed invention except for the shaft having a round or oval cross-sectional profile and the shaft being curved. Hoeck et al. in view of Hermann et al. does disclose a shaft that is used to connect two hooks (fig 3, 5)

Lombardo discloses a spinal device that comprises hooks (fig. 12A) that comprises a shaft that has a round profile (fig 12A, 73) that can be either straight or curved (fig 12A-C). The shaft is used to connect two hooks.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have substituted the shaft of Hoeck et al. in view of Hermann et al. with any of the shafts of Lombardo in order to achieve the predictable result of connecting two hooks.

Claims 7, 8, 17, 18, 33, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeck et al. (US 6,136,003) in view of Hermann et al. (US 2001/0020168) and in view of Jackson (US 5,980,523).

Hoeck et al. in view of Hermann et al. discloses the claimed invention except for the first spinal rod and the second spinal rod are positioned to lie non-parallel to each other and to not lie in the same plane.

Jackson discloses a spinal stabilization system that comprises rods that are positioned non-parallel and non-planar to one another (fig 25) to allow for greater adjustability during surgical procedures (col. 5, ll. 28-47).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have constructed the device of Hoeck et al. in view of Hermann et al. with the spinal rods being positioned to lie non-parallel and non-planar to one another, in order to allow for greater adjustability during surgical procedures.

Response to Arguments

Applicant's arguments filed 11/17/2009 have been fully considered but they are not persuasive. The applicant argues that the rills of Hermann are not a raised ridge. The examiner respectfully disagrees. The fact that the rills are machined into the device does not mean that they do not form a raised ridge. The rills in the final machined device are raised relative to the base of the device. The process by which the ridges are formed do not negate them from being raised ridges relative to the bottom of the channel. The applicant also argues that Hermann does not disclose the curved portion of the internal surface curves in a direction obliquely and intersecting the ridge. The

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examiner respectively disagrees. On both sides of a respective ridge the side approaching the peak (ridge) are curved with respect to the curve of the channel and oblique based on their angle of approach to the ridge. This is similar to applicant argument with regard to claim 13. The sides are curved in two directions and intersect and overlap at the ridge. With regard to claims 14-16 the angle is a result variable based on changing the angle will change the friction on the rod. With respect to claim 33, the applicant argues that modifying Van Hoeck/Hermann to include a non-parallel relationship in view of Jackson would yield a device that is multi-component. The examiner respectively disagrees. The inclusion of the Jackson reference teaches the need for connecting rods which are not parallel and modifying a connector to accept a non-parallel relationship to prevent slipping (col. 1, ll. 30-36). This teaches making a connector to enable a non-parallel alignment does not necessarily lead to a multi-part connector. The Van Hoeck connector can be bent to be non-parallel and enable the teaching of Jackson to form a non-parallel connector.

The rejections are deemed proper.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEVEN J. COTRONEO whose telephone number is (571)270-7388. The examiner can normally be reached on M-F 730-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eduardo Robert can be reached on 571-272-4719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. J. C./

Examiner, Art Unit 3733

/Eduardo C. Robert/

Supervisory Patent Examiner, Art Unit 3733

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